

CLAIMS

1. A communication control apparatus for controlling multipoint communication conducted using a plurality of communication apparatuses connected via a communication circuit, comprising
  - 5 a request processing means for inquiring to a designated communication apparatus whether it intends to attend multipoint communication when receiving information designating that communication apparatus and
  - 10 a request seeking the attendance of that designated communication apparatus in the multipoint communication and
    - 15 a communication control means for controlling the multipoint communication among the plurality of communication apparatuses including the designated communication apparatus when receiving an answer from the designated communication apparatus to the effect of attending the multipoint communication.
2. A communication control apparatus as set forth in claim 1, wherein the request processing means notifies the communication apparatus issuing the request that it has received an answer from the designated communication apparatus to the effect of refusing to attend the multipoint communication when receiving the same.
- 25 3. A communication control apparatus as set forth

in claim 2, wherein the request processing means notifies the communication apparatus issuing an answer to the effect of refusing to attend the multipoint communication of at least one of a state of said multipoint  
5 communication and content of the conversation at a predetermined timing.

4. A communication control apparatus as set forth in claim 3, wherein the request processing means notifies the apparatus when at least one of the attendants in the  
10 multipoint communication and content of communication changes.

5. A communication control apparatus as set forth in claim 1, wherein the request processing means sends information about at least one of the attendants in the  
15 multipoint communication, the content of the conversation, a charging method, and time to the designated communication apparatus when making the inquiry.

6. A communication control apparatus as set forth  
20 in claim 1, wherein the request processing means sends information necessary for the designated communication apparatus to attend the multipoint communication to the designated communication apparatus.

7. A communication control apparatus as set forth  
25 in claim 6, wherein the information necessary for

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attendance in the multipoint communication is information identifying the multipoint communication and a password.

8. A communication control apparatus as set forth in claim 1, wherein the communication control means  
5 controls data transmitted from the plurality of communication apparatuses engaged in the multipoint communication to be received by other communication apparatuses other than the communication apparatuses transmitting the data.

10 9. A communication control apparatus as set forth in claim 1, wherein

the request processing means inquires to the communication apparatus designated by a request whether it intends to attend the multipoint communication when 15 receiving a request seeking opening of multipoint communication, and

the communication control means starts control of the multipoint communication by the plurality of communication apparatuses including the designated 20 communication apparatus when receiving an answer from that communication apparatus to the effect that it will attend the multipoint communication.

10. A communication control apparatus as set forth in claim 1, wherein

25 the request processing means instructs the

communication control means to break the connection of the multipoint communication when receiving a request seeking the same from a communication apparatus attending the multipoint communication, and

- 5           the communication control means controls the multipoint communication by the plurality of communication apparatus other than the communication apparatus requesting the disconnection from among the plurality of communication apparatuses attending the
- 10          multipoint communication in response to the command from the request processing means.

11. A communication control apparatus as set forth in claim 10, wherein

- 15          said request processing means notifies the other communication apparatuses attending said multipoint communication that said communication apparatus has output a request for disconnection from said multipoint communication.

12. A communication control apparatus as set forth in claim 1, further comprising

20          a charge processing means for carrying out a charge processing on users of said communication apparatus for the service related to said multipoint communication.

25          13. A communication apparatus used for multipoint

communication with other communication apparatuses connected via communication circuit, which receives an inquiry as to if it intends to attend the multipoint communication together with information necessary to connect to the multipoint communication from the communication control apparatus controlling the multipoint communication and automatically accesses the communication control apparatus using the necessary information when receiving a command to the effect of attending the multipoint communication.

14. A communication apparatus as set forth in claim 13, which receives information identifying the multipoint communication and a password as the information necessary to connect to the multipoint communication and uses the same to automatically access the communication control apparatus.

15. A communication apparatus as set forth in claim 13, further comprising  
20 an operating means by which said command to attend said multipoint communication is input.

16. A communication apparatus as set forth in claim 13, comprising  
25 a display means for display based on image information sent from said communication control

apparatus or said other communication apparatuses.

17. A communication apparatus as set forth in claim  
13, comprising

a speech output means for speech output based  
5 on speech information transmitted from said communication  
control apparatus or said other communication  
apparatuses.

18. A communication control method for controlling  
multipoint communication conducted using a plurality of  
10 communication apparatuses connected via communication  
circuit, comprising

inquiring to a designated communication  
apparatus whether it intends to attend the multipoint  
communication when there is information designating a  
15 communication apparatus and a request seeking the  
designated communication apparatus to attend the  
multipoint communication and

controlling the multipoint communication among  
the plurality of communication apparatuses including the  
20 designated communication apparatus when the designated  
apparatus gives an answer to the effect of attending the  
multipoint communication.

19. A communication control method as set forth in  
claim 18, further comprising notifying the communication  
25 apparatus issuing the request that the designated

communication apparatus has given an answer to the effect of refusing to attend the multipoint communication when that is the case.

20. A communication control method as set forth in  
5 claim 18, further comprising notifying said communication apparatus answering that it will not attend said multipoint communication of at least one of a state of said multipoint communication and content of conversation at a predetermined timing.

10 21. A communication control method as set forth in claim 20, further comprising providing said notification when at least one of the attendants of said multipoint communication and said content of conversation changes.

15 22. A communication control method as set forth in claim 18, further comprising sending information about at least one of the attendants, content of conversation, a charging method, and time of said multipoint communication to said designated communication apparatus when making said inquiry.

20 23. A communication control method as set forth in claim 18, further comprising sending information necessary for said designated communication apparatus to attend said multipoint communication to said designated communication apparatus.

25 24. A communication control method as set forth in

claim 18, wherein

said communication control means controls data transmitted from the plurality of communication apparatuses engaging in said multipoint communication to 5 be received by other communication apparatuses other than the communication apparatuses transmitting said data.

25. A communication control method as set forth in claim 18, further comprising

inquiring at a communication apparatus 10 designated by a request for opening the multipoint communication whether it intends to attend said multipoint communication when receiving such a request and

starting control of the multipoint 15 communication by the plurality of communication apparatuses including said designated communication apparatus when receiving an answer from said communication apparatus that it will attend said multipoint communication.

20 26. A provision medium for providing a program describing a routine for controlling multipoint communication conducted using a plurality of communication apparatuses connected via communication circuit, wherein the program describes

25 a routine for inquiring to a designated

communication apparatus whether it intends to attend the multipoint communication when there is information designating that communication apparatus and a request seeking that the designated communication apparatus

5 attend the multipoint communication and  
a routine for controlling the multipoint communication among the plurality of communication apparatuses including the designated communication apparatus process when the designated communication

10 apparatus gives an answer to the effect of attending the multipoint communication.

27. A provision medium as set forth in claim 26,  
wherein said program further describes  
a routine for notifying said communication apparatus issuing the request that a designated communication apparatus has answered to the effect of refusing to attend said multipoint communication when there is such an apparatus.

28. A communication system comprising:  
20 a communication circuit;  
a plurality of terminal apparatuses each comprising at least a keyword input means for inputting a keyword and communicating with each other via the communication circuit so as to engage in multipoint communication; and

a server comprising a keyword extracting means  
for receiving data including a keyword input by a  
terminal apparatus and extracting the keyword from the  
received data, a user database in which user information  
5 is registered, a user extracting means for comparing a  
keyword extracted by the keyword extracting means with  
the user information registered in the user database and  
extracting at least one corresponding user, and a  
transmitting means for transmitting information about the  
10 multipoint communication to the users extracted by the  
user extracting means.

29. A communication system as set forth in claim  
28, wherein

each terminal apparatus comprises a speech  
15 input means,  
the keyword input means includes a speech input  
means, and  
the keyword extracting means of the server  
includes a means for extracting a keyword from speech  
20 transmitted from the terminal apparatus.

30. A communication system as set forth in claim  
29, wherein the keyword extracting means includes  
a speech-text converting unit for converting  
speech to text;  
25 a speech database for saving speech data

converted in the speech-text converting unit; and  
a keyword extracting unit for extracting a  
keyword based on speech data converted in the speech-text  
converting unit and data stored in the speech database.

- 5        31. A communication system as set forth in claim  
30, wherein the speech-text converting unit stores in the  
speech database only the speech data relating to a  
predetermined portion instructed by the terminal  
apparatus.
- 10      32. A communication system as set forth in claim  
30, wherein the speech-text converting unit counts the  
frequency of use of each word in the data converted to  
the text and stores the frequency of use and the word  
data in the speech database.
- 15      33. A communication system as set forth in claim  
31, wherein the speech-text converting unit counts the  
frequency of use of each word in the data converted to  
the text and stores the frequency of use and the word  
data in the speech database.
- 20      34. A communication system as set forth in claim  
32, wherein the speech-text converting unit counts the  
total number of words stored in the speech database and  
stores the words in the conversation and their frequency  
to an extent by which the total number of words does not  
25 exceed a predetermined range.

35. A communication system as set forth in claim  
33, wherein the speech-text converting unit counts the  
total number of words stored in the speech database and  
stores the words in the conversation and their frequency  
5 to an extent by which the total number of words does not  
exceed a predetermined range.

36. A communication system as set forth in claim  
34, wherein  
  
the server further comprises a related word  
10 memory in which words related to keywords are registered  
and  
  
the keyword extracting unit extracts a keyword  
based on a word related to the keyword registered in the  
related word memory in addition to the speech data and  
15 the data stored in the speech database when the total  
number of words does not exceed the predetermined range.

37. A communication system as set forth in claim  
35, wherein  
  
the server further comprises a related word  
20 memory in which words related to keywords are registered  
and  
  
the keyword extracting unit extracts a keyword  
based on a word related to the keyword registered in the  
related word memory in addition to the speech data and  
25 the data stored in the speech database when the total

number of words does not exceed the predetermined range.

38. A communication system as set forth in claim  
36, wherein the keyword extracting means extracts word  
data having a high frequency of use from conversation  
5 data stored in the speech database when the total number  
of words exceeds the predetermined range, compares the  
extracted word data with the word data related to the  
keyword registered in the related word memory to extract  
at least one related word, and clears the speech database  
10 and the total number of words after extracting the  
related word.

39. A communication system as set forth in claim  
37, wherein the keyword extracting means extracts word  
data having a high frequency of use from conversation  
15 data stored in the speech database when the total number  
of words exceeds the predetermined range, compares the  
extracted word data with the word data related to the  
keyword registered in the related word memory to extract  
at least one related word, and clears the speech database  
20 and the total number of words after extracting the  
related word.

40. A communication system as set forth in claim  
28, wherein

the system further comprises an external  
25 control terminal connected to the server, and

the server receives as input only a keyword from the terminals attending the multipoint communication and particularly approved terminals not attending the multipoint communication or the external control terminal  
5 connected to the server.

41. A communication system as set forth in claim  
28, wherein

the system further comprises an external  
control terminal connected to the server, and  
10 terminals attending the multipoint  
communication and particularly approved terminals not  
attending the multipoint communication or the external  
control terminal connected to the server transmit to the  
server information for restricting other terminals  
15 sending information about the multipoint communication.

42. A communication system as set forth in claim  
28, wherein the information about the multipoint  
communication includes at least one of a theme of  
multipoint communication, a number of attendants, a  
20 charging method, an access point, and a list of the  
attendants.

43. A communication method where a plurality of  
terminal apparatuses communicate with each other via  
communication circuit for multipoint communication,  
25 comprising

a step of receiving data including a keyword transmitted from a terminal apparatus and extracting the keyword from the received data;

5 a step of comparing the extracted keyword with previously registered user information and extracting at least one corresponding user; and

a step of transmitting information about the multipoint communication to the extracted user.

44. A communication method as set forth in claim  
10 43, wherein the step for extracting the keyword extracts the keyword in speech sent from the terminal apparatus.

45. A communication method as set forth in claim 44, wherein the step for extracting the keyword is comprised of

15 a step of converting speech to text;  
a step of storing the speech data converted to text; and

a step of extracting the keyword based on the converted speech data and the stored data.

20 46. A communication method as set forth in claim 45, wherein the step of storing the speech data stores only the speech data related to a predetermined portion instructed by the terminal apparatus.

47. A communication method as set forth in claim  
25 45, wherein the step of storing the speech data counts

the frequency of use for each word in the data converted to text and stores the frequency of use and word data.

48. A communication method as set forth in claim 46, wherein the step of storing the speech data counts 5 the frequency of use for each word in the data converted to text and stores the frequency of use and word data.

49. A communication method as set forth in claim 47, wherein the step of storing the speech data counts the stored total number of words and stores the words in 10 conversation and their frequency of use to an extent by which the total number of words does not exceed a predetermined range.

50. A communication method as set forth in claim 48, wherein the step of storing the speech data counts 15 the stored total number of words and stores the words in conversation and their frequency of use to an extent by which the total number of words does not exceed a predetermined range.

51. A communication method as set forth in claim 20 49, wherein the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the converted speech data and the stored data when the total number of words does not exceed the predetermined range.

25 52. A communication method as set forth in claim

50, wherein the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the converted speech data and the stored data when the total number of words does not  
5 exceed the predetermined range.

53. A communication method as set forth in claim  
50, wherein the step of extracting the keyword is comprised of

10 a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

a step of comparing the extracted word data with the word data related to the registered keyword to extract at least one related word, and

15 a step of clearing the stored speech data and the total number of words after extracting the related word.

54. A communication method as set forth in claim  
52, wherein the step of extracting the keyword is  
20 comprised of

a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

a step of comparing the extracted word data  
25 with the word data related to the registered keyword to

extract at least one related word, and  
a step of clearing the stored speech data and  
the total number of words after extracting the related  
word.

5        55. A communication method as set forth in claim  
43, further comprising inputting a keyword from a  
terminal attending the multipoint communication and a  
particularly approved terminal not attending the  
multipoint communication or an external control terminal  
10      connected to a server.

56. A communication method as set forth in claim  
43, further comprising restricting the other terminals  
sending information about the multipoint communication by  
a terminal attending the multipoint communication and a  
15      particularly approved terminal not attending the  
multipoint communication or an external control terminal  
connected to a server.

57. A communication method as set forth in claim  
43, wherein said information about the multipoint  
20      communication includes at least one of a theme of the  
multipoint communication, the number of the attendants, a  
charging method, an access point, and a list of the  
attendants.

58. A provision medium providing a program for  
25      making a computer execute

a step of receiving data including a keyword transmitted from a terminal apparatus engaged in multipoint communication by communicating through a communication circuit and extracting the keyword from the 5 received data;

a step of comparing the extracted keyword with previously registered user information and extracting at least one corresponding user; and

a step of transmitting information about the 10 multipoint communication to the extracted user.

59. A provision medium as set forth in claim 58, which provides a program wherein the step for extracting the keyword extracts the keyword in speech sent from the terminal apparatus.

15 60. A provision medium as set forth in claim 59, which provides a program where the step for extracting the keyword includes

a step of converting speech to text;

a step of storing the speech data converted to 20 text; and

a step of extracting the keyword based on the converted speech data and the stored data.

61. A provision medium as set forth in claim 60, which provides a program where the step of storing the 25 speech data stores only the speech data related to a

predetermined portion instructed by the terminal apparatus.

62. A provision medium as set forth in claim 60, which provides a program where the step of storing the speech data counts the frequency of use for each word in the data converted to text and stores the frequency of use and word data.

63. A provision medium as set forth in claim 61, which provides a program where the step of storing the speech data counts the frequency of use for each word in the data converted to text and stores the frequency of use and word data.

64. A provision medium as set forth in claim 62, which provides a program where the step of storing the speech data counts the stored total number of words and stores the words in conversation and their frequency of use to an extent by which the total number of words does not exceed a predetermined range.

65. A provision medium as set forth in claim 63, which provides a program where the step of storing the speech data counts the stored total number of words and stores the words in conversation and their frequency of use to an extent by which the total number of words does not exceed a predetermined range.

66. A provision medium as set forth in claim 64,

which provides a program where the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the converted speech data and the stored data when the total 5 number of words does not exceed the predetermined range.

67. A provision medium as set forth in claim 65, which provides a program where the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the 10 converted speech data and the stored data when the total number of words does not exceed the predetermined range.

68. A provision medium as set forth in claim 66, which provides a program where the step of extracting the keyword is comprised of

15 a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

a step of comparing the extracted word data with the word data related to the registered keyword to 20 extract at least one related word, and

a step of clearing the stored speech data and the total number of words after extracting the related word.

69. A provision medium as set forth in claim 67, 25 which provides a program where the step of extracting the

keyword is comprised of

a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

5 a step of comparing the extracted word data with the word data related to the registered keyword to extract at least one related word, and

10 a step of clearing the stored speech data and the total number of words after extracting the related word.